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ABSTRACT

A study is presented that examines the null-subject parameter (NSP) and that seeks to attain the following objectives: (1) to assess the validity of the implicational hierarchy for the NSP, especially as proposed by Liceras (1989); and (2) to determine if there is any evidence to support the theory of the Weaker Logical Problem of Acquisition (WLPA). The study involved 24 students, learning Spanish as a foreign language, who were enrolled in a third semester university course. Information regarding the properties of NSP and a discussion of previous second language studies are presented. An analysis of the results is provided of a 43-item grammatical-judgment test designed to assess the status of the three properties of the NSP in the learners' interlanguage, and of a collaborative judgment task. 19 references. (GLR)

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REASSESSING THE NULL-SUBJECT PARAMETER IN SECOND LANGUAGE ACQUISITION

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Introduction

The present study is part of a larger project on the effects of the Null-subject Parameter (NSP) in foreign language learning. Although the larger study includes data from Spanish and Italian, our focus here will be exclusively on Spanish (see Maes and Lantolf, 1990). Since the initial study on (NSP) in L2 conducted by White (1985), a number of papers have dealt with this feature of Universal Grammar (White 1986, Hilles 1986, Phinney 1987 and Liceras 1988 and 1989). All of these studies have reported effects, although to varying degrees, for the NSP in non-primary language acquisition.

The specific claims made by parameter-setting theory as extended to L2 learning, have not been, in my opinion, unambiguously stated. As I understand it, the major thrust of the parameter-setting model of L2 research is to discover if the acquisition device that apparently operates in L1 learning is accessible in the acquisition of second languages in adulthood. To paraphrase Liceras (1989, p. 109), if UG were accessible for non-primary language acquisition, both L1 and L2 learners would be supposed to set a number of parameters according to the options permitted by UG. Liceras goes on to say that

> the question then is whether L2 learners start with their L1 setting of a given paramter and eventually reset it to the L2 option or whether the L1 setting does not play a role in the acquisition process. In

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> other words, we face the traditional problem of the role of the mother tongue on L2 acquisition, but in parameterized terms. (Liceras, 1989, p. 109)

It is crucially important to realize that Liceras' formulation of the problem, in fact, entails two questions; the first of which (does the mechanism that directs in L1 acquisition continue to function in L2 learning?) must be answered before the second one (does the learner begin the L2 learning process with his/her L1 setting or does he/she directly access UG?) can be answered.

The first question can be stated in terms of the, "Logical Problem of Acquisition" (LPA). Whether formulated in its strong form, as in the case of L1, or in a weaker version (WLPA), as has been proposed for L2, it must be answered. The difference between the strong and weak versions of LPA hinges on the fact that children are always successful in acquiring complex knowledge of their language, whereas L2 learners never succeed in attaining the same perfect knowledge attributed to children (Birdsong, p. 95).1 The WLPA claims that it is possible to develop complex and subtle knowledge of a language for which the input is underspecified without attaining complete knowledge of the language.

One way of testing the validity of the WLPA is to investigate the status of formal linguistic properties that cluster together in parameters. Briefly stated, parameter-setting theory claims that because certain properties of language cluster together in abstract ways, they can be acquired on the basis of impoverished input. Input that is minimally sufficient to determine the acquisition of one property of a given parameter will trigger the acquisition of the remaining properties in the cluster. These remaining properties then do not require specifically tailored input to be acquired. Thus, learners can have linguistic knowledge that is extra-experiential.

Properties of NSP

The NSP is usually taken to be a cluster of three properties: obligatory presence or optional deletion of a subject pronoun, obligatory SV order or optional SV inversion, and extraction of the subject of an embedded clause containing a lexical complementizer; usually referred to as that-trace effects.2 The properties are illustrated below with examples from Spanish and English:

1. (Yo) tengo tres gatos. (Optional null-subject)
   I have three cats. (Obligatory subject pronoun)

2. Llegan nuestros parientes el lunes. (Optional SV inversion)
   Our relatives are arriving on Monday. (Obligatory SV order)

3. ¿Quién crees que es la más inteligente? (Grammatical extraction of a subject out of a clause containing a lexical complementizer)
   *Who do you believe that is the smartest. (Ungrammatical extraction of a subject)

It is assumed that if a language allows null-subjects, as does Spanish, it also allows SV inversion and extraction of embedded subjects, and if a language does not permit null-subjects, as in the case of English it also does not permit SV inversion and subject extraction (that-trace effects). It is further assumed that UG is specified as to the unmarked setting of the parameter.3

Previous L2 Studies

I am aware of six studies on NSP effects in L2. Two deal with the acquisition of English by native speakers of Spanish and French (White, 1985 and 1986b). Another (Hilles, 1986) is a longitudinal study of a single L1 speaker of Spanish learning English. The fourth investigates Spanish and English L1 speakers learning each other's language as an L2 (Phinney, 1987). The fifth focuses on stylistic variation in the performance of four advanced learners of Spanish (Liceras, 1988). The sixth investigates the acquisition of Spanish by native speakers of English and French (Liceras, 1989).

Three of the six studies use grammaticality judgments as their principal data source (White, 1985, 1986b and Liceras, 1989). White (1986b) also uses a question formation task. Of the three remaining studies, one (Phinney, 1987) uses written compositions; one (Liceras, 1988) uses a grammaticality judgment task and a story-telling task; the other (Hilles, 1986) utilizes oral production data collected over a ten-month period. Five of the six studies, Phinney's being the sole exception, investigate the cluster of properties associated with the NSP.

From the outset, researchers encountered problems of regarding how the properties of the NSP emerged in L2s.

According to UG theory, all of the properties in the domain of the given parameter are simultaneously triggered, once the appropriate input is recognized by the learner. Simultaneous triggering, of course, does not necessarily mean that the properties of a parameter will instantaneously appear in a learner's speech patterns. Once triggered, they may emerge more or less gradually, although over a relatively short span of time (see Hyams, 1989).

The problem reflected in the UG/L2 literature is that the properties of the NSP do not seem to emerge along the lines predicted by UG theory and documented in the L1 literature. To my knowledge Hilles (1986) is the only L2 study to uncover NSP effects that in any way resemble what has been reported for L1 acquisition. Even this study is suspect, however, because as Bley-Vroman (1989, p. 65) notes, Hilles' subject may not have engaged in a fully-adult language learning experience since he was only 12 years old.

Both White (1985 and 1986b) and Liceras (1989) report the sequential emergence of the properties of the NSP in L2 learners. White (1986b) suggests the possibility that the properties of the NSP might, thereforefore, be organized hierarchically on an implicational scale. One of the problems with this proposal, however, as illustrated in Figures 1 and 2, is that the order uncovered by White does not jibe with that found by Liceras (1989).

SV inversion > null-subject > that-trace effects

Fig. 1: Implicational hierarchy for resetting of the NSP suggested by White (1986b) for L2 English

Null-subject > SV inversion > that-trace effects

Fig. 2: Implicational hierarchy for resetting of the NSP proposed by Liceras (1989) for L2 Spanish

Liceras (1989, p. 110) suggests that the eventual emergence of the properties of the parameter "may be triggered by structural properties of the language in question." She argues that in order for L2 learners of Spanish to fix the SV inversion property, they must first internalize the non-parameterized particle *a* used to mark human direct objects (p.128). If this were the case, then, at least, it could be argued that learners acquire

knowledge of their L2 on the basis of indirect input and thereby, provide some support for the WLPA. Unfortunately, Liceras fails to provide any evidence to show that this is the case. Until such time that the necessary evidence is forthcoming, one could equally argue that L2 learners of Spanish will not acquire SV inversion until they receive, and attend to, direct input that inversion is possible in Spanish.

The Study

The present study has two objectives: to assess the validity of the implicational hierarchy for the NSP, especially as proposed by Liceras (Fig. 2), and to determine if there is any evidence to support the WLPA.

Subjects

Twenty-four students of Spanish as a foreign language enrolled in a third semester (i.e., intermediate) university course participated in the study. All participants had two years of high shool Spanish (the minimum reported in response to a biographical survey). Thus, at the time of data collection, they had studied the language for a total of three full years: two years in high school and one year at the university. Moreover, none of the learners reported having spent more than a two-week vacation period in a Spanish-speaking country.

It was decided not to use native Spanish-speaking controls. On this point, I am in agreement with Birdsong (1989, pp. 118-122) who cautions that a direct comparison of NS judgments with those of NNS may force one into inadverdently assuming the strong, rather than, the weak version of the LPA. This would mean that the effects of UG in leaners would be expected to resemble those attested in NS's judgments. According to Birdsong (1989, p. 119), this is an unreasonable assumption and buys into what Bley-Vroman (1983) characterizes as the "comparative fallacy."

Task and Procedures

The task consisted a 43-item grammaticality judgment test designed to assess the status of the three properties of the NSP in the learners' interlanguage. Of the 43 sentences, 22 were sensitive to the null-subject property of Spanish, 8 related to SV inversion, and 4 assessed the status of that-trace effects. The relatively large number of sentences featuring null-subject options

was motivated by the possibility that syntactic position (e.g., sentence initial vs. clause initial) or the person/number marking of the verb might have influenced subjects' responses. In the end, neither possibility was a factor.

Of the eight sentences relative to SV inversion, two were embedded in a contextual framework in which the test sentences were to be taken as responses to information questions. This was done because Spanish word order is sensitive to discourse constraints. While the context provided was somewhat limited, it was felt that it might be sufficient to remedy the problem reported in White (1986b, p. 70) with regard to use of isolated sentences "for tapping the word order question."

The remaining 9 sentences focused on the analysis of auxiliary verbs, and were included to evaluate the status of Hyams'claim that the setting of the NSP in L1 serves as endogenous input determining the analysis of AUX. According to Hyams'languages differ with respect to whether the Agreement (AG) generated under INFL is or is not PRO. In null-subject languages, like Spanish, AG is assumed to be PRO, which licenses an empty category in subject position (i.e., null-subject). Since PRO may only appear in ungoverned positions, AUX under INFL must be empty in null-subject languages. This forces a main-verb analysis on auxiliaries, like, haber in NS languages. In languages like English, on the other hand, AG is empty, which allows lexical material in AUX. Thus, in these languages, auxiliaries are analyzed as AUX under INFL.

A main verb analysis of auxiliaries in NS languages gives rise to various constraints on movement, clicitic and negative particle placement, and deletion of past particles, as illustrated by the ungrammatical nature of the Spanish sentences given below:

4. *¿Ha Juan escrito la carta?
   Has John written the letter?

5. *Olga ha no terminado sus estudios.
   Olga has not finished her studies.

6. *Roberto ha lo comprado.
   Robert has it bought.

7. *Angela no ha llegado pero Jorge ha.
   Angela has not arrived but George has.

Notice that all of the English equivalents are grammatical, reflecting a non-main verb analysis.

Once English-speaking children fix the setting of the NSP for their language, it triggers an analysis of INFL along the lines of the adult grammar, and real auxiliaries and models emerge shortly thereafter (Hyams, 1989). Hilles (1986) reports a similar pattern in the resetting of the NSP and emergence of real auxiliaries in the speech of her ESL subject.

In keeping with Chaudron's (1983) recommendation that subjects be given a detailed set of instructions for experimental tasks, we incorporated the well-conceived set of instructions developed by Bley-Vroman, et al (1988). Three response options were provided for each sentence: grammatical, ungrammatical, not sure. Subjects were also asked to correct any sentences they rated as ungrammatical. Although no time limit was established for completion of the test, the average time for completion was 23 minutes, with no student taking longer than 30 minutes. The test and instructions are included in the appendix.

Additional Elicitation Procedures

As Birdsong (1989, p. 115) correctly observes, we have a dearth of knowledge on how subjects actually go about accomplishing the tasks we set for them. We can never be certain whether their judgment is a function of comprehensibility, syntactic form, or some pragmatic feature. To remedy the situation, Birdsong (1989, p. 117) suggests using introspective techniques in which learners are asked to "think aloud" as they carry out judgment tasks. Despite claims to the contrary, for other than the simplest task, think aloud data are highly suspect on theoretical as well as on empirical grounds (see Lyons, 1986; Dreyfus & Dreyfus, 1986, and Lantolf, in press). As an alternative, we have developed a procedure which relies on collaborative problem-solving to bring cognitive processes to the surface.

Without going into detail, I will simply point out that there is strong theoretical and empirical support for use of joint problem-solving activity as a means of understanding internal processing. This support comes from the Theory of Activity developed within the Vygotskyan school of psycholinguistics. Briefly stated, the theory maintains that the same goal-directed action is involved whether the action is carried out on the

interpsychological or intrapsychological plane (Wertsch 1985, p. 207). Thus, by analyzing the speech produced by individuals engaged in collaborative goal-directed behavior, we can observe the externalization of the inner order. The procedure has proven to be very effective in previous research (see Donato & Lantolf, 1990; Lantolf, 1990; Newman, et al, 1984). For purposes of the present sutdy, two groups of three subjects were asked to complete the grammaticality test together. Their conversations were recorded for analysis.

Results

I first present the results from the grammaticality test. This is followed by analysis of the collaborative judgment task. Although space does not permit full consideration of the collaborative protocols, it is hoped that, in addition to what they reveal about the NSP, their value will be appreciated, refined and extended to other areas of interest to L2 researchers.

Grammaticality Survey

Table 1 summarizes the responses from the 24 intermediate learners. The data are reported as percentages of correct and incorrect responses for each linguistic feature tested. Thus, the column labeled CR (correct response) reflects the percentage of subjects that correctly recognized the status (i.e., grammatical or ungrammatical) of a related set of sentences. The column labeled IR (incorrect response) gives the percentage of learners that incorrectly assessed the grammatical status of a cluster of sentences. The third column NS (not sure) shows the percentage of respondents that selected the third option for a given constellation of sentences. In determining the percentages, no consideration was given to the nature of the corrections made for those sentences judged to be ungrammatical. Analysis of the corrections (see below), however, necessitates, some adjustments in the figures given in the table. This is especially true in the case of items 1 through 4.

Table 1
Summary of Response Patterns for Intermediate Spanish Learners
(N=24)

Response Type	CR	IR	NS
Feature			
1. Null-Subject	72%	20%	08%
2. Non-null Subject	67%	31%	02%
3. Pleonastic "Lo"	22%	52%	26%
4. Pleonastic ∅	87%	09%	04%
5. VS Order	16%	77%	07%
6. SV Order	92%	08%	00%
7. That-trace	26%	43%	31%
8. ∅ Complementizer	41%	39%	20%
9. Aux Violation	55%	26%	19%
10. Correct Aux	72%	10%	18%

Null-Subject Property

For many of the null-subject sentences the respondents focused on something other than the status of the subject pronoun, with the majority centering on adverb placement, a phenomenon we had not anticipated. In a sentence such as (8) 63% of the students marked it as ungrammatical with only 37% choosing the correct response. 4

(8) Creo que sólo tengo diez pesos.
(I) think that (I) only have ten pesos.

All 15 learners that selected the ungrammatical option corrected the sentence by either repositioning the adverb solo or rewriting it in its alternate form solamente. None of the respondents inserted a subject pronoun, a clear indication that the null-subject was, in fact, acceptable and that 100% of the responses correctly assessed the grammatical status of this feature. Other corrections given for null-subject sentences focused on such irrelevant features as modality, gender marking, and preposition selection.

Corrections for sentences containing lexical pronoun subjects (2 in Table 1), reinforces the findings for the NS sentences. Although several of the corrections also involved adverb movement, a large proportion deleted subject pronouns, as illustrated in (9):

(9) Yo hablo mucho cuando yo estoy en casa.
"I speak a lot when I am at home."

Correction: Yo hablo mucho cuando estoy en casa.

Error analysis for pleonastic pronouns, presents a less clear picture. Liceras' English-speaking subjects correctly rejected Spanish sentences containing overt pleonastic pronouns and accepted sentences with missing pleonastic forms.

The data given in 4 in Table 1 corroborate Liceras' findings, but the percentages in 3 do not. The majority of learners accepted an overt pleonastic pronoun in (10), but none inserted a pro-form in either (11) or (12).

(10) *En Canadá, lo nieve mucho en invierno.
"In Canada, it snows a lot in winter."

(11) Hace mucho frío en Alaska.
"It is very cold in Alaska."

(12) Parece que Gabriela es muy inteligente.
"It seems that Gabriela is very intelligent."

While five of the seven subjects who corrected (10), appropriately deleted lo, two inserted an unnecessary article el before invierno. Thus, the percentage of incorrect responses is actually greater than that given in Table 1. On the other side of the coin, however, none of the corrections made in the case of (11) and (12) involved insertion of a pro-form.

Taking the nature of the corrections into account, the percentage of correct responses for missing pleonastic pro was actually 96%, while for overtly expressed pleonastic pro, the correct response was given by only 20% of the learners. Although it is somewhat difficult to interpret the meaning of this divergence, it seems clear that Liceras' (1989, p. 119) conclusion that "pleonastic pro is easily incorporated into the interlanguage" is not readily supported by the present study.

SV Inversion

The relevant items for inversion in Table 1 are 6 and 7. Liceras (1989) found that her subjects were more likely to accept inversion in ergative rather than non-ergative constructions, as illustrated in (13) and (14) respectively.

(13) Sale Carlos a las dos.
"Leaves Charles at two o'clock."

(14) Beben la leche los niños.
"Drink the milk the children."

To account for the difference, Liceras suggests a possible link between acquistion of personal a and acquisition of VS order in non-ergative constructions, although she provides no evidence to support her proposal. In the case at hand, no appreciable difference was found across the two constructions. For ergatives, 19% correct responses and 73% incorrect responses were given; for non-ergative sentences, 15% correct responses and 77% incorrect judgments were provided.

Moreover, discourse does not seem to affect learners' judgments of the grammaticality of VS order. For the two sentences (3 and 26) in which context played a role in word order choice, no clear difference in response pattern was observed. Slightly more than 60% of the subjects rejected VS order; 17% accepted the order; and 23% were not sure. The only observable difference between these and the non-contextualized sentences is in the Not Sure category. Whether this is due to context is difficult to determine.

Error analysis for the VS sentences reveals that none of the corrections involved alterations other than inverting VS to SV order. This tendency was so strong that five of the respondents incorrectly changed VS order in sentence (15), a yes/no question requiring inversion.

(15) ¿Dice Jorge la verdad?
"Does George tell the truth?"

That-trace Effect

Only 26% of the learners (Table 1, item 7) provided the correct response for the two grammatical sentences (16 and 17) relative to the that-trace effect.

(16) ¿Qué ciudad cree ella que es la más grande?
"*Which city does she think that is the largest?"

(17) ¿Qué cree usted que va a pasar ahora?
"*What do you think that is going to happen now?"

Liceras (1989, p. 128) suggests that the absence of subject pronouns in her sentences might have caused

sufficient confusion among her subjects (i.e., they had two problems to focus on) to lead them to misinterpret the sentences. As is clearly seen in the present case, however, even with subject pronouns included, learners did not recognize the grammaticality of these sentences.

A clue that the learners might have interpreted the that-trace sentences in terms of English comes from their responses to sentence (18):

(18) *¿Quién cree usted vive con Ramón?
"Who do you think lives with Ramon?"

As it stands, (18) is ungrammatical; however, 58% of the learners judged it to be grammatically correct and only 29% identified it as ungrammatical. The remaining 13% were not sure of its status. The situation is further complicated by the fact that the majority of subjects (58%) recognized the ungrammatical status of sentence (19) with a missing complementizer.

(19) *Pedro dice ella siempre llega tarde.
"Peter says she always arrives late."

Error analyses for the four sentences in question clarifies the situation somewhat. Nine of the learners recognized the need to insert the missing complementizer in (19). Of these, three made the correct judgment for (16) and three were not sure of its status. Four out of nine who inserted que in (19) also selected the correct option for (17), and four were not sure of its status. Four subjects likewise supplied the missing que in (18). The problem, in this case, however, is the positioning of the complementizer. Que could be inserted in either of two positions: immediately following the verb cree, or immediately after usted. In the former case, quién would be interpreted as the subject of the matrix verb cree; in the latter, it would be construed as the extracted subject of the embedded clause. It is the latter possibility which Spanish allows and English does not. None of the corrections for this sentence entails the second interpretation, which leads to the conclusion, tentative though it may be at this point, that the respondents evaluated the sentences, not on the basis of their knowledge of Spanish, but in terms of English translation equivalents.

It is clear that learners fairly early on recognize the obligatory nature of complementizers in Spanish. None of the corrections involved que deletion. Liceras also

reports a high frequency of *que* insertion for sentences with missing complementizers. The accuracy rate in assessing the ungrammaticality of sentences with missing complementizers, however, declined from (19), a declarative sentence, to (18), an interrogative construction. The problem here, of course, is that once the missing *que* is inserted, the English equivalent is ungrammatical. This further implies that the subjects judged the grammatical status of these sentences on the basis of English translation equivalents. Additional support for this argument is obtained from the protocols for the collaborative judgment task to be considered below.

Liceras (1989, p. 128) suggests that her subjects might have had difficulties interpreting the that-trace sentences because in her questionnaire such sentences lacked an overt subject pronoun in their matrix clause. In the present study, however, this was not the case, as can be seen from (16) and (17) above. Presence of an overt subject pronoun did not seem to influence how learners treated these sentences. Eleven of 20 corrections for both sentences involved inversion of VS order in the matrix clause (i.e, *ella cree* > *cree ella*; *cree usted* > *usted cree*), and seven corrections entailed forward movement of the complementizer, thus converting the subject of the matrix clause into the subject of the embedded clause.

AUX Analysis

The learners' assessment of those sentences containing grammatically correct auxiliary constructions was very high (72%). Moreover, none of the relevant corrections involved modifications in the auxiliary elements. Thus, these subjects had no difficulty in recognizing grammatically correct auxiliary constructions. Although, on the whole, the learners also performed well on the ungrammatical sentences, the nature of the ungrammaticality appears to have made a difference. For the two sentences with an element intervening between the auxiliary and its related participle, given in (20) and (21) below, the majority of subjects were readily able to recognize and correct the error.

(20) *Ha Juan estudiado mucho para esta clase?
"Has John studied a lot for this class?"

(21) *Ricardo ha no terminado el libro.
"Richard has not finished the book."

Sixty-six percent of the respondents recognized the error in (20). However, 13 of the learners corrected the sentence by preposing the subject Juan, thus maintaining SV order. Only two students used VS order in their correction (i.e., Ha estudiado Juan ...) and one resolved the problem by deleting Juan (i.e., Ha estudiado ...). The percentage that recognized the ungrammatical nature (21) was somewhat less than for (20) (i.e., 58%). All fourteen corrections correctly moved the negative particle to the appropriate position (i.e., ... no ha terminado ...).

The subjects were not as good at identifying and correcting the error in sentences (22) and (23) with the deletion of the past participle.

(22) *Olga ha estudiado y Pedro ha también.
"Olga has estudiado and Peter has also."

(23) *Juan no ha llegado, pero Maria ha.
"John has not arrived, but Mary has."

Only 46% of the subjects judged (22) as ungrammatical; the percentage drops to 25% for sentence (23).

While it is difficult to determine with certainty if the learners' analysis of AUX is related to their internalization of the null-subject property, the data are at least suggestive, thus potentially providing some evidence in support of the WLPH. To verify this claim, however, requires a careful tracing of interlanguage development from the outset. Otherwise, one could argue that the two features have followed parallel, but independent, developmental paths.

Collaborative Judgments

While we cannot examine the protocols for each test, we can consider those which are especially revealing of the strategies the learners deployed in judging the status of the sentences. How learners process target language sentences is a critical one, and as the protocols show, learners do not necessarily do what we think they do. With the exception of sentences relating to null-subjects, the learners translated the sentences to English and then assessed the grammaticality of the English sentences. In the ensuing analysis, the two groups studied are referred to as group A and group B. Arabic numerals indicate dialogue lines; lower-case letters refer to individual members of each group.

Protocol I (group B), shows that the subjects were quite sensitive to the null-subject property of Spanish:

PI. Yo hablo mucho cuando yo estoy en casa.
1a. I speak much when I'm in house ...
2a. Yo hablo mucho cuando ...
3b. That's kinda .. I don't know ... Yo estoy ? [rising intonation] That's not really necessary, the yo, is it?
4c. Yeah, it's redundant.
5c. Estoy en ... casa.

In PI the respondents quickly focus on the redundant subject pronoun, yo, in the embedded clause and recognize that it is not necessary. Although the learners translate the Spanish sentence into English, they do not judge the grammatical status of the subject pronoun on the basis of English. For the VS and that-trace sentences, however, English is clearly the basis for assessing the status of the Spanish sentences.

In PII (group A) the subjects produced an incorrect translation of the sentence to be judged.

PII. ¿Quién va a llamar a las tres?
"Who is going to call at three?"
Va a llamar Miguel.
"Miguel is going to call."
1a. ¿Quién va a llamar?
2a. Which is the sentence?
3b. It's two.
4c. What?
5c. What does it mean? Who goes to [class? clap?] to the third?
6a. Mm, Doesn't make sense.
7b. No ... no ... Who goes to ...
8b. Number 3 we're unsure of yet. Two sentences ... and the first doesn't make any sense at all. The second is "I'm going to call Miguel" is grammatical. The second of the two is grammatical ... OK.

The students first attempt to determine which of the two sentences was to be assessed. Once this decision is reached, they incorrectly construe the subject of the second sentence to be "I" rather than "Miguel". Thus, a parsing problem in the translation process yields what amounts to a correct assessment of the Spanish sentence (i.e., that it is grammatical), but for the wrong reasons. Statistical analysis of responses to a

grammaticality judgment test is, of course, insensitive to such processing strategies.

The next protocol, PIII (group B), further illustrates the powerful role English plays for intermediate-level learners in completing grammaticality tests.

PIII. Beben los niños la leche.
"Drink the children the milk."
1b. Beben los niños a la leche ... la leche.
2b. They drink the niños the milk ... na
3b. The niños drink the milk. That should go there.
4a. Yeah.

In line 1b, the learners incorrectly insert the particle a in order to mark the direct object function of la leche. As 2b and 3b show, however, they still have problems interpreting the appropriate subject position, and insist that it must appear preverbally, as it does in English.

The same procedure was also followed for all ergative constructions, as exemplified in the next protocol, PIV (group A).

PIV. Viene Juan mañana con su amigo.
"Comes John tomorrow with his friend."
1c. What's viene ?
2b. Comes ... Juan
3a. Should be reversed ...
4b. Yeah ... Juan viene ...

For these subjects, the Spanish sentence could not conceivably have VS order, because its English counterpart cannot have VS order; thus, they incorrectly assess it as ungrammatical.

The almost categorical rejection of VS order is nowhere better illustrated than in PV, in which the same group of learners ponders the status of a correctly rendered yes/no question.

PV. ¿Dice Jorge la verdad?
""Tells George the truth?"
1c. Do you know what's dice?
2a. Right
3c. Is it? A question? Would it be ...
4c. Said George the truth?
5b. No, it's George ...

6a. Isn't that a statement if you say "George said the truth?"
7b. I guess it could be either way ... the more I think about it ... Dice se [sic] Jorge la verdad ...
8a. Could you say "Jorge said the truth ..."
9b. That's not a question anymore.
10a. It all depends how you say it.
11b. That doesn't make sense.
12a. If you use ... If you say it with inflection, then it does make sense.

Even though the learners correctly identify the sentence as a question, which requires inversion, they still want to reject it on the basis of VS order. Knowledge that Spanish marks yes/no questions with rising intonation allows them this option (lines 10a and 12a). That is, they can mark it as ungrammatical, because of word order, while at the same time allowing for the obvious fact (indicated by punctuation) that the sentence is a question.

One protocol, PVI (group A), suffices to illustrate the problems presented by the that-trace sentences.

PVI. ¿Qué ciudad cree ella que es la más grande?
"*Which city does she think that is the largest?"
1b. What city do you think she ... huh ... cree que.
2b. Mmm ... right.

The attempt to render the sentence into English runs into immediate difficulty. Since their English version lacks an overt complementizer, they mistakenly construe the subject of the matrix clause as "you". The presence of ella causes a breakdown signalled by the filled pause in (1b). The problem is overcome by deleting ella (i.e., cree que), which allows for a grammatically correct English translation. The sentence is thus correctly assessed to be grammatical, but, once again, as in the case of PII, for the wrong reasons.

The final two protocols (PVII and PVIII) relate to AUX analysis. In both cases, the sentences are judged on the basis of English translations and wrongly accepted as correct by the learners.

PVII. *Olga ha estudiado y Pedro ha también.
"Olga has stuided and Peter has also."

1b. Olga has studied and Pedro has also.
2b. Mmm
3b. OK

PVIII. *Ha Juan estudiado mucho para esta clase?
"Has John studied a lot for this class?"
1a. Ha Juan ... it's fine.
2a. Mmm ... Studied much for this class.
3b. No, mmm ...
4a. That's the helping verb. That's haber ... which means to have.
5b. Has Juan?
6b. Yeah, I guess so. Yeah.
7a. Has ... Juan studied much for this exam for this class?
8c. Sounds right.

Although PVII is straight forward, PVIII is not. In PVIII, the learners seem to consider, but reject, the correct analysis (line 3b), settling, instead, on the translation in line 7a, which leads them to judge the sentence as grammatical.

Conclusion

Little evidence has been uncovered here to support either White's or Liceras' findings on an implicational relationship among the properties of the NSP. The picture that emerges is one in which the three properties of the NSP are acquired independently of each other and on the basis of overt evidence in the learner's linguistic experience. The WLPA, at least as far as the NSP is concerned, is not confirmed. For the time being, however, the findings relative to AUX analysis prevents us from completely rejecting the WLPA, especially since the quantitative data do not jibe with the evidence from the colloborative judgments. It is necessary to explore in further detail this facet of the problem.

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Notes

1. According to Bley-Vroman (1989), the inability of L2 learners to develop knowledge of their non-primary language on a par with native speakers provides support for his Fundamental Difference Hypothesis.

2. A discussion of the motivation underlying the cluster of properties affiliated with the NSP would take us to far afield from the issues germain to our discussion. The reader is referred to Jaeggli and Safir (1989) for a full discussion of the theoretical arguments relative to the NSP. Moreover, I am aware that not all theoreticians are in agreement as to the specific properties which cluster under the NSP. White (1986b) raises the possbility that SV inversion may not be a property of the NSP based on evidence from Brazilian Portuguese. Some, such as Gaby Hermon (personal communication), even question whether NSP is, in fact, a parameter.While these are ultimately important issues, significant claims have been made about the NSP in the L2 and even the L1 literature (see Hyams, 1989). For this reason, I accept the orthodox interpretation of the status and associated properties of the NSP.

3.For a full discussion of the arguments relevant to the markedness controversy, in addition to he five L2 studies already cited, the reader should consult White (1986b), Hyams (1989), and Birdsong (1989).

4. Sentences given in the text are numbered consecutively and do not follow the numbering used in the grammaticality test.

Appendix

Sentence Grammaticality

Speakers of a language seem to develop a "feel" for what is a grammatical sentence, even in the many cases where they have never been taught any particular rule. For example, in English, you may feel that sentences 1 and 2 below sound grammatical, while sentence 3 doesn't.

1. What did Bill think that the teacher had said?
2. Who does John want to see?
3. What did Sam believe the claim that Carol had bought?

Although all three sentences are similar, one can judge without depending on any rule of English that the question in 3 is ungrammatical in English.

Likewise in Spanish, you might feel that the first sentence below is a grammatical Spanish sentence, while the second one does not.

1. ¿A quién le doy el dinero?
2. ¿Quién le doy el dinero a?

On the following pages is a list of Spanish sentences. We would like you to tell us for each one whether you think it is grammatical or ungrammatical. Even native speakers of a language often have some problems determining whether a sentence is or is not grammatical. Therefore, these sentences cannot serve the purpose of establishing your level of proficiency in Spanish and we are not attempting to do this.

For each of the sentences please tell us whether you think it is a grammatical or an ungrammatical sentence in Spanish. If you think a sentence is grammatical or ungrammatical, put an X in the appropriate space. If you are not sure about a particular sentence, put an X next to the Not Sure option. Also, if you mark a sentence as ungrammatical, we ask that you make any change that you think will make that sentence grammatical. Please do this right on the response form. The following example is intended to illustrate a possible procedure for correcting a sentence you judge to be ungrammatical:

Quien le doy el dinero a?
_____Grammatical
__X__Ungrammatical
_____Not Sure

Read each sentence carefully before you answer. Concentrate on the structure of the sentence. Ignore any problems with spelling, punctuation, accents, etc. Please mark only one answer for each sentence. Make sure you have answered all items.

1. Creo que sólo tengo diez pesos.
2. No hablo español con mis amigos.
3. ¿Quién va a llamar a las tres?
   Va a llamar Miguel.
4. Juan sabe que vivimos aquí.
5. El cree que jugamos mucho.
6. María sabe que siempre hablamos español.
7. Quieren estudiar ahora.
8. ¿Ha Juan estudiado mucho para esta clase?
9. Ellos salen para Madrid mañana.
10. Pienso que ella va a la universidad todos los días.
11. Beben la leche los niños.
12. Marta come un sandwich y bebe una cerveza.
13. Olga ha estudiado y Pedro ha también.
14. En Canadá, lo nieva mucho en invierno.
15. ¿Quién cree usted vive con Ramón?
16. Juan escribe cartas cuando escucha la radio.
17. Llegan nuestros amigos mañana a las ocho.
18. ¿Han cantado los muchachos en la fiesta?
19. Pensamos que nosotros tenemos mucho dinero.
20. Parece que Gabriela es muy inteligente.
21. Viene Juan mañana con su amigo.
22. Marta dice que vienen ellos en dos días.
23. El perro no quiere beber el agua.
24. ¿Qué ciudad cree ella que es la más grande?
25. José vive en México, pero el quiere estudiar en España.
26. ¿Qué está haciendo Luz?
    Luz está jugando.
27. Es muy difícil esta clase.
28. Ricardo ha no terminado el libro.
29. ¿Dice Jorge la verdad?
30. Hace mucho frío en Alaska.
31. Pedro dice ella siempre llega tarde.
32. Juan no ha llegado, pero María ha.
33. Josefina cree que compran un coche nuevo.
34. ¿Qué cree usted que va a pasar ahora?
35. Yo debo estudiar mucho porque tengo un examen mañana.
36. Roberto ha comprado un coche, ¿no es verdad?
37. Yo hablo mucho cuando yo estoy en casa.
38. Miguel ha preparado la comida para su amiga.
39. Sale Carlos a las dos.
40. Mi amigo escribe muchas cartas.
41. José puede no ir con María al cine.

42. Claudia ha trabajado mucho esta semana.
43. Sabemos muy bien que siempre comen en este restaurante.